Designing a safer explosive

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by David Chavez

This Fourth of July, as you and your family settle on a sandy beach or grassy lawn to watch a fireworks display, you're probably not thinking about the science behind the explosives you're witnessing. In fact, you probably are not even thinking of them as explosives. But that's exactly what they are—-and there's a lot of science that goes into creating that dazzling display of fire and colors.

At Los Alamos National Laboratory, where I work as an explosives chemist, we pay a lot of attention to things that blow up—and we're especially interested in how to make them safer. The trick with any explosive—from fireworks to propellants to explosives used in nuclear weapons—is that their ability to release tremendous energy on demand is also what can make them inherently unstable. Accidental discharge can have catastrophic consequences.

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